K100D | PENTAX

Essential to the experience.

Revolutionary design

Welcome to an exciting new chapter in PENTAX SLR history. Featuring shake reduction for dramatic results with slower shutter speeds and a name that reflects our vast heritage of K-mount lens compatibility, the PENTAX K100D delivers an abundance of advanced, user-friendly features in an affordable digital SLR body. Compatible with any PENTAX SLR lens ever produced,* the K100D is the kind of camera that makes history. Picture a large 2.5 inch LCD monitor with

210,000 pixel resolution. A friendly Mode Dial offering Auto Picture and Picture modes as well as new Scene modes makes photography even simpler. The 6.1 megapixel CCD, 11-point auto focus mechanism, and sophisticated 16-segment multi-pattern metering delivers outstanding image reproduction, while the bright, high-precision penta-mirror viewfinder features a 96 percent field of view with 0.85X magnification. All these features combine in a compact design with a high-rigidity stainless-steel chassis that is built to last.

**With adapter for screw mount and 645/67 lenses.*

PENTAX Shake Reduction

The PENTAX K100D digital SLR incorporates a unique shake reduction feature that helps deliver sharp, blur-free, handheld shots with any PENTAX SLR lens. This is particularly helpful in situations where camera shake is an issue, such as with telephoto lenses, indoors without a flash, or other low light conditions such as at dawn, dusk or at night.

The PENTAX Shake Reduction (SR) feature is an electromagnetically controlled system built into the body to detect handheld camera shake and compensates by moving a free floating image sensor. Unlike other DSLR optical anti-shake systems, this SR system delivers shake reduction with all PENTAX SLR lenses ever manufactured without requiring a special series of bulky, expensive optics.

Over 30 patents have been filed for this SR system, which uses a ball-bearing-mounted oscillator unit with four electromagnets that position the free-floating image sensor. Angular velocity sensors detect camera movement and relay the amount of compensation necessary to the electromagnets that move the sensor to compensate for any shake.

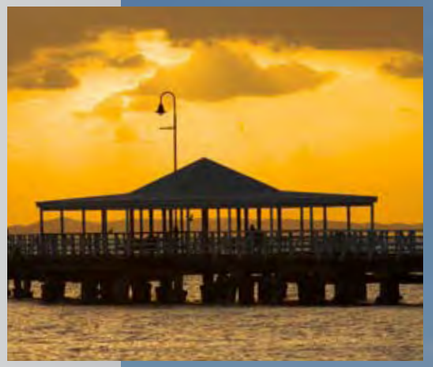
As a result, photographers can capture sharp images at a shutter speed that is 2 to 3.5 stops slower (e.g. 1/15 sec instead of 1/60 sec with a standard lens) than would otherwise be possible. The SR system provides a crucial advantage when shooting handheld with telephoto or tele-zoom lenses, at macro distances, or any other situation that magnifies the effects of camera shake. The SR system also helps considerably when taking non-flash pictures indoors or at dusk or other low light situations without using a tripod.

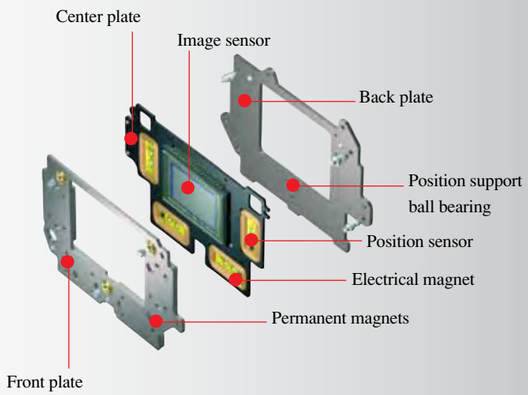
Based on a free-floating sensor design, PENTAX SR is superior to other sensor-moving systems because it uses no guide rails, allowing the sensor to oscillate at a quicker response time.

SR Shake Reduction

Inside the shake reduction unit

Inside the innovative PENTAX Shake Reduction mechanism, two angular velocity sensors are used to detect the amount and direction of camera shake. The data accumulated by these sensors is transmitted to the camera's CPU to instantly calculate the vertical and horizontal shift levels required to compensate for camera shake. The image sensor is then shifted at the optimum levels using magnetic force generated by the permanent magnets on the front plate and the electrical magnets on the center plate. Since this mechanism does not require a mechanical guiding device, it is free of power loss for quick response and speedy operation. The image sensor is firmly supported by the three ball bearings installed on the back plate for pinpoint positioning.





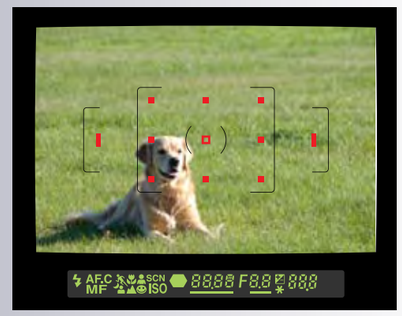
Additional advantages of PENTAX Shake Reduction

- Since the SR system is activated only when you press the shutter release, any effect on battery consumption is negligible.
- PENTAX SR is optional. You can leave SR on permanently, turning it off only when using a tripod or panning (deliberately moving the camera in the direction of subject motion to blur the background).
- Performance capabilities such as autofocus speed, shutter lag time and continuous shooting rate are unaffected by the SR system because its operation is instantaneous, occurring within the normal exposure interval.
- By building the system into the body, PENTAX SR provides maximum flexibility and requires no compromises in optical quality.
- To provide optimal shake reduction, the camera must "know" the focal length of the lens in use. PENTAX F, FA, D-FA, and DA series lenses automatically relay focal length information to the camera. With older lenses, the PENTAX K100D allows users to manually input focal length information via the shake reduction menu which allows focal lengths all the way from 8mm to 800mm.

The K100D SR system is an engineering achievement and an example of PENTAX's commitment to our legacy of lenses.

Autofocus system

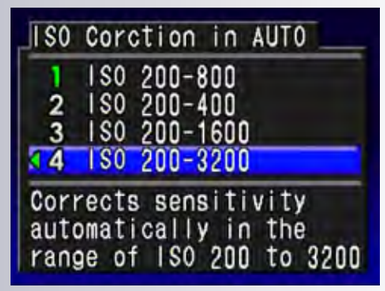
The K100D's sophisticated SAFOX VIII autofocus system features 11 sensor points (with nine cross-type sensors) to automatically focus on the subject with utmost precision, even when it is positioned off center. The in-focus sensor point is automatically superimposed in red in the view-finder for at-a-glance confirmation. This high-precision AF system offers a choice of two AF modes: the conventional single AF, and the continuous AF,* which maintains focus on the moving subject as long as the shutter release button is pressed halfway down.



** The continuous AF mode is selectable by the user only when P, Tv, Av, M or B is selected as a shooting mode on the mode dial. This mode is automatically activated by the camera when the Auto Picture Program, or one of the Picture or Scene modes, is selected.*

ISO sensitivity

The K100D features an auto sensitivity control function, which automatically sets the optimum standard output sensitivity — up to 3200, which is the highest automatic setting in its class — based on such data as the subject's brightness level and the lens focal length. Since this function allows the use of higher shutter speeds in poor lighting situations (such as indoor sports events and night scenes), it helps the photographer to effectively reduce camera shake and prevent blurred images.


ISO Corction in AUTO
1 ISO 200-800
2 ISO 200-400
3 ISO 200-1600
4 ISO 200-3200
Corrects sensitivity automatically in the range of ISO 200 to 3200

Auto Picture mode for effortless point-and-shoot SLR photography

The K100D offers the PENTAX-developed Auto Picture mode and a new Scene mode pallete. The Auto Picture mode automatically and instantly selects one of the four Picture modes — including Portrait, Landscape and Macro — by calculating various photographic factors to assure optimum results. The Scene mode allows the photographer to select from eight modes specialized for conditions such as Night Scene, Portrait, Sunset, or Pet mode. The photographer chooses the mode to match the subject and scene and the camera automatically selects the proper exposure, white balance, and other settings for superior results.

Large LCD monitor to facilitate image viewing and menu setting

The K100D incorporates a large 2.5 inch color LCD monitor on its back panel. Its wide-view design allows the photographer to check the monitor image over 140 degrees vertically and horizontally, ensuring effortless image viewing even from a diagonal position. With a total of approximately 210,000 pixels, it also offers digital zooming of playback images up to 12X for easy confirmation of the image's focusing status and details. The large monitor size allows for large letters, digits and icons on the menu screens to facilitate menu confirmation and camera operations.

Bright, clear viewfinder

The K100D features a lightweight penta-mirror viewfinder, which combines PENTAX-original finder optics with a Natural-Bright-Matte II focusing screen to deliver a bright, clear subject image with 0.85X magnification and 96 percent field of view.

True-to-life, rich-gradation images assured by 6.1 effective megapixels

The K100D features a large, high-performance 23.5mm x 15.7mm CCD as its image sensor, assuring the faithful reproduction of the desired photographic intention in the resulting images — from images with beautiful out-of-focus backgrounds to those with edge-to-edge sharpness. By combining 6.1 effective megapixels with a high-performance imaging engine and advanced image-processing technologies, the K100D is designed to produce beautiful, true-to-life images that are rich in gradation. What's more, it offers a choice of two finishing touches of "Natural" or "Bright" to create a distinctive atmosphere.

Top shutter speed of 1/4000 second

The K100D offers a top shutter speed of 1/4000 second to freeze fast-moving subjects and capture decisive moments. It also features a flash synchronization speed of 1/180 second and a bulb setting (B) for extended exposures.

Continuous shooting at approximately 2.8 images per second

To track the movement of an active subject or capture a sequence of the subject's expressions, the K100D offers a continuous shooting mode that allows the photographer to capture multiple images (up to five images at "Best" image quality in JPEG format) at a maximum speed of approximately 2.8 images per second.

Other features

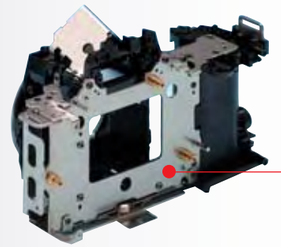
- 19 custom functions to personalize camera operations
- SD memory card compatibility
- Choice of two preview functions (digital/optical)
- Choice of 16-segment multi-pattern metering, center-weighted metering and spot metering to accommodate various photographic applications
- Noise reduction mechanism to reduce digital noise during extended exposures
- Dual power source (two CR-V3 lithium batteries, or four AA-size batteries)
- USB 2.0 (HI-SPEED) compatibility for speedy data transfer to PC
- Choice of image format between JPEG (Best, Better or Good) and RAW
- Five digital filters (Black-and-white, Sepia, Slim, Soft and Brightness) for easy editing of recorded images
- PictBridge compatibility

K100D

Form and function

Super-compact, ultra-lightweight body, with outstanding rigidity

While the K100D is designed to be compact and lightweight to enhance operability and portability, it also incorporates a newly developed stainless-steel chassis and a fiber-reinforced plastic housing to reinforce its overall rigidity and durability.



Heritage of K-mount

PENTAX has manufactured over 24 million lenses in the last five decades. We believe that for every assignment there needs to be a lens that matches each photographer's style, amateur and professional alike. The K100D offers backwards compatibility with each of these lenses.*

Choose from our assortment of DA lenses specifically designed for use with PENTAX digital SLRs or pull a favorite PENTAX lens from the camera bag. Rest assured that whatever lens is used, whether it is the most recent DA Limited lens or a classic screw mount lens, it will faithfully capture the image desired.

**With adapter for screw mount and 645/67 lenses.*

K110D

Value and features

If you are just stepping up to a digital SLR, the vast array of features packed into the affordable PENTAX K110D is impressive. Like the K100D, this digital SLR offers a fast, high-precision 11-point auto focus (9 cross-type sensors) with SAFOX VIII and superimposed AF-point display. Add to this a 6.1 megapixel APS-C size CCD, sensitivity equivalent to ISO 200 to 3200, a 2.8 frame per second capture rate for action photography, and a bright, high-precision penta-mirror viewfinder with 0.85X magnification. The sleek, compact body design with a high-rigidity stainless-steel chassis offers convenient SD media card storage and high speed USB 2.0 data transfer and operates on AA batteries, 2 CR-V3 lithium batteries, or optional AC adapter.

PENTAX lens and flash compatibility

PENTAX digital SLR camera systems combine the latest in digital technology with legendary PENTAX optics, craftmanship and functionality that are essential to your photography experience. You can connect with the vast heritage of PENTAX Super-multi-coated optics that provide limitless opportunities to create crystal-clear imagery with enhanced color and definition. Unleash the power of advanced, wireless P-TTL auto flashes with high-speed syncronization to perfectly light your scene. PENTAX SLR camera systems blend completely to offer ease of use, performance and portability to satisfy everyone from the novice photographer to the most discerning enthusiast.

smc PENTAX
DA 21mm f/3.2 ED/AL

With its ultra-thin, pancake design, the DA 21mm wide-angle lens offers go-anywhere portability, as well as a versatile, all-purpose angle of view that makes it ideal for casual, day-to-day snapshot photography. The image circle in DA series lenses is designed to perfectly match the 23.5mm x 15.7mm size of the CCD used in PENTAX digital SLRs to optimize camera performance. The new design also contributes to drastic size and weight reduction, compared to 35mm format counterparts with similar specifications.

PENTAX
AF-540FGZ

(Guide No. 148, ft @ ISO 100, f/5.6)
Higher guide number for increased range and versatile flash performance with swivel head

PENTAX
AF-360FGZ

(Guide No. 99, ft @ ISO 100, f/5.6)

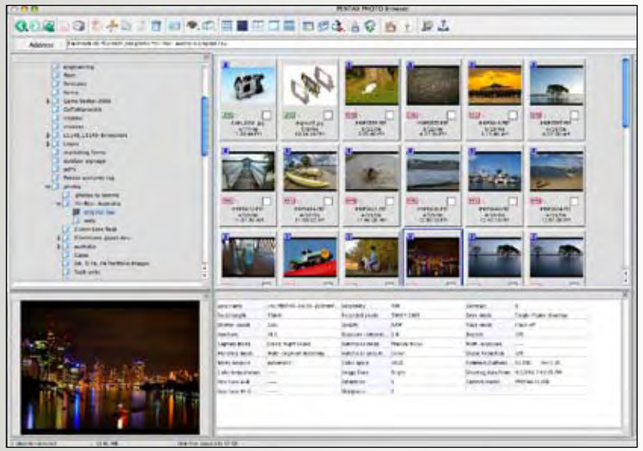
Power of P-TTL Flash

Flash is for so much more than a shot in the dark. Shed high-speed wireless light on your subject with a PENTAX specialized flash unit. The power of P-TTL mode with preflash allows for more accurate strobe photography, and wireless P-TTL flash is available when used with our Digital SLRs. Control your flash exposure compensation through a simple control dial, and view the LCD display to check the effective range of the flash in P-TTL, TTL and AUTO modes. A special modeling light feature strobes that flash for one second so the photographer can check for unwanted shadows or highlights.

K100D/K110D

PENTAX Photo Browser™ 3

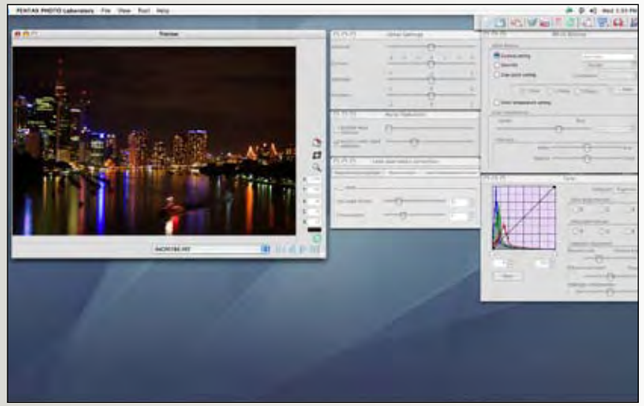
This software facilitates various post-shooting operations, including the transfer of recorded images to and the filing, browsing, editing, simple revision, and printing of transferred images on a PC. PENTAX Photo Browser™ 3 offers fast image-processing speed, simplified image transfer operations, enhanced docketing and protect functions, and a detailed image data display plus the ability to convert files to the DNG format.



- Speedy transfer of recorded images to a PC
- Thumbnail display in four different sizes
- Instant preview of a selected image
- Detailed image data display, including a Scene mode name
- A variety of image file editing functions
- Extraction and filing of JPEG format from RAW data
- Addition of a data conversion function to Adobe DNG format
- Image-rotation, image magnification and slide show functions
- Automatic image quality compensation function
- Simple print function

PENTAX Photo Laboratory™ 3

This software not only processes undeveloped RAW data, but also offers a variety of image-editing functions on a PC. Featuring SILKYPIX (developed by ICHIKAWA SOFT LABORATORY) as its image-development engine, it assures fast data processing speeds and also performs various image-editing and data-manipulation functions without requiring additional retouching software.



- Display of RAW data files
- Development and filing of RAW data in JPEG and TIFF formats
- Simplified image editing, with sensitivity, brightness, saturation, contrast and outline controls
- Gradation control using a tone curve
- Histogram display, with over and underexposure warnings
- White-balance control using a gray point
- Direct printing of RAW data files
- Noise reduction, peripheral brightness control, distortion compensation and chromatic aberration compensation functions
- Image compensation for digital shift

Camera Specifications

*K100D and K110D

Type - Auto-exposure digital SLR still camera with TTL auto focus and built-in retractable P-TTL auto flash

Effective Pixels

6.1 Megapixels

Image Capture Device

Type – Interline interlace CCD with a primary color filter
Total Pixels – 6.31 megapixels
Color Depth – 8 bit (JPEG) or 12 bit (RAW) x 3 colors

Recorded Pixels/Storage Capacity with 128MB card

JPEG	★★★	★★	★
3008 x 2008	34	70	117
2400 x 1600	51	96	161
1536 x 1024	106	173	271
RAW			
3008 x 2008	11		

Focus System

Type - TTL phase-matching 11-point autofocus system (SAFOX VIII) w/AF assist lamp
Autofocus Modes - AF-Single (with focus lock), AF-Continuous, Manual
Illumination Range – EV1 - EV19 (At ISO 200 with 50mm f1.4 lens)
Shake Reduction – Image Sensor Shift

Lens Mount

Type - PENTAX KAF mount compatible with PENTAX KAF2, KAF and KA mount lenses
K-mount lenses - usable with restrictions
S-mount lenses - usable with adapter and restrictions
67/645 lenses - usable with adapter and restrictions

Exposure Control

Light Metering Method – TTL open-aperature metering with choice of: 16-segment, Center-weighted & Spot meter
Metering Range - EV1 - EV21.5 (At ISO 200 with 50mm f1.4 lens)
Sensitivity - ISO Auto, 200, 400, 800, 1600, 3200
Exposure Control Method - Program AE, Auto Picture Mode, Picture Mode, Scene Mode, Shutter Priority, Aperture Priority, Manual, Bulb
Exposure Compensation - +/-2 EV (1/2 or 1/3 steps)
Auto Exposure Lock - Pushbutton type with approx. 20 sec. timer
Depth of Field Preview - Via main switch
Auto Bracketing - 3 frames +/-1.5EV (1/2 steps) or +/-1EV (1/3 steps)
Shutter: Type - Electronically controlled vertical-run focal plane shutter
Shutter Speed - 1/4000 - 30 seconds and Bulb
White Balance: White balance control - TTL Auto, Pre-set, Custom white balance
Available Settings - Auto, Daylight, Shade, Cloudy, Tungsten light, Fluorescent light, Flash, Manual
Flash: Built-in series-control retractable P-TTL pop-up flash
Operation Modes - Auto, Flash-off, Flash-on, Auto + Red-eye reduction, Flash-on + Red-eye reduction
Guide Number - 15.6 (at ISO 200/m)
Angle of View Coverage - 28mm (equivalent to 35mm)
Flash Exposure Compensation - +1 to -2 (1/2 steps)
Flash Synchronization - With RTF and via hot shoe
Synchronization Speed - 1/180 sec, P-TTL high speed sync with PENTAX dedicated flash

Shooting Specifications

Picture Modes – Mode Dial: Auto Picture, Scene, Standard, Portrait, Night-scene Portrait, Landscape, Macro, Action, Flash Off, Program AE, Shutter Priority AE, Aperture Priority AE, Metered Manual, Bulb – Scene Modes: Night Scene, Surf & Snow, Text, Sunset, Kids, Pet, Candlelight, Museum
Digital Filter – Black & White, Sepia, Color (18 types), Soft (3 levels), Slim, Brightness
Drive Modes – Single-shot, Continuous (2.8fps, 5 JPEG, 3 RAW), Self-timer (12 sec, 2 sec), Auto bracketing, Remote Control (0 sec, 3 sec)

Image Storage

Storage Media - SD memory card removable
File Formats
Still JPEG (Exif 2.21), RAW, DCF (Design rule for Camera File system), DPOF (Digital Print Order Format), PRINT Image Matching III
Storage Capacity - Quality Levels: Best, Better, Good with 128MB Card

LCD / Viewfinder

Optical Viewfinder - Penta-mirror with Natural-Bright-Matte II focusing screen
Viewfinder Coverage - 96%
Viewfinder Magnification - 0.85x (with 50mm f1.4 lens, -1-1)
Diopter Adjustment - 2.5m-1 to +1.5m-1
LCD Monitor - 2.5 inch, TFT color LCD (Low Reflection) – with Histogram display
LCD Coverage - 100%
LCD Resolution - Approx. 210,000 pixels
Angle of View - Approx. 140°

Playback Specifications

Playback Modes File - Single, Index - Nine image
Magnification - 12X
LCD Function - Image rotation, Slide show, Digital filter, Histogram, Exposure warning
Erase and Image Protect Modes - Single, All

PictBridge

One image print, All image print, DPOF, Paper size, Paper type, Paper quality, Border

Language

English, French, German, Spanish, Italian, Russian, Chinese, Korean, Japanese, Swedish, Dutch

Interfaces

Type - USB 2.0 high speed
Video Output - Compatible with NTSC and PAL formats

Power Supply

Power Source - Four AA (Lithium, Alkaline, and rechargeable NiMH) batteries, or Two CR-V3 lithium batteries, Optional AC adapter also available
Battery Life – Approx. 730 recordable images or 700 playback minutes with CR-V3 batteries

Physical Specifications

Operating Temperatures - 32° to 104° Fahrenheit (0° to 40° Celsius)
Dimensions (W x H x D) - 5.1 x 3.6 x 2.8 inches (129.5x 92.5 x 70mm)
Weight - 19.8 oz. (560g) without battery and SD memory card
22.4 oz. (635g) with batteries

Computer System Requirements

Mac Requirements - OS: Mac OS 10.2 or later, standard equipped USB port
PC Requirements - OS: Windows 2000, XP Home edition / Professional, standard equipped USB port

*K100D includes Shake Reduction SR Shake Reduction

K100D

K110D

PENTAX

Essential to the experience.

pentaxslr.com
pentaximaging.com
h2ocamera.com

Photography by Katsuhiro Ichikawa ©2006